



# NEWS FEATURE

**U.S. ARMY CORPS OF ENGINEERS**

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## **USACE's 249th Prime Power Battalion lights up Kandahar**

A small contingent of Soldiers plays a huge role in improving and maintaining southern Afghanistan's electric power infrastructure, primarily in Kandahar City.

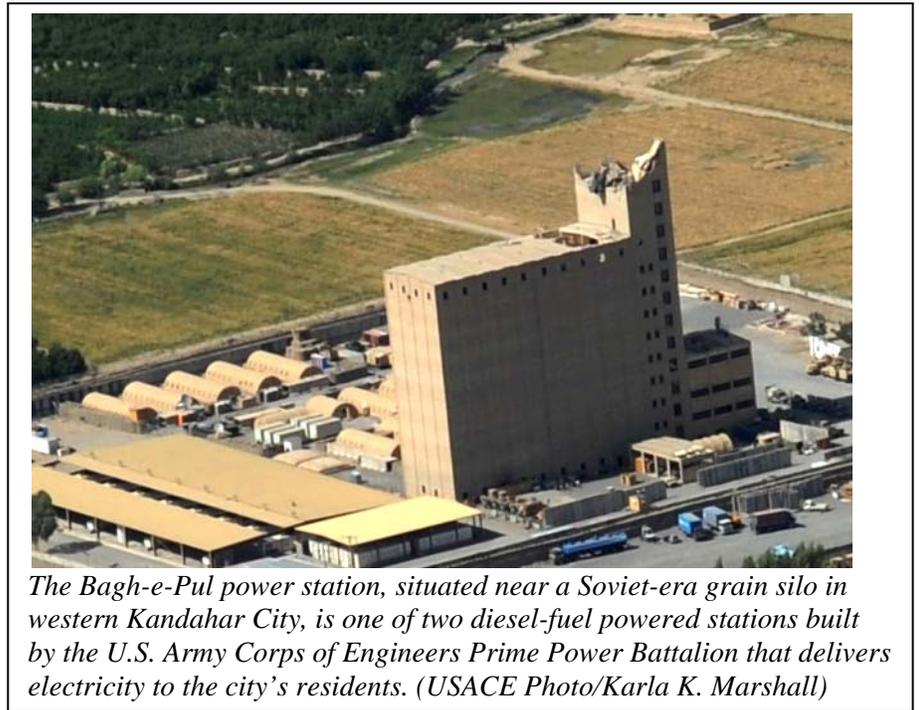
These non-commissioned officers, deployed from the U.S. Army Corps of Engineers' only active duty unit, the [249th Prime Power Battalion](#) at Fort Bragg, N.C., are all prime power specialists assigned to Task Force Breshna Barq. Established in the summer of 2010, the task force's primary mission is bringing more and more reliable power to Kandahar City.

"These Soldiers are responsible for electric power outside the wire," said Chief Warrant Officer 5 Thomas Black, deputy commander of Task Force Breshna Barq. "Locally, four Soldiers are based at the USACE-built and managed power stations in Kandahar city — two at the Bagh-e-Pul power station in western Kandahar and the others at the Shurandam Industrial Park power station."

The initial task force mission was two-pronged: daily oversight and contract management for the installation and commissioning of two \$40 million, 10-megawatt diesel-fueled power plants and the validation and assessment of about 40 kilometers of 20-kilovolt, overhead medium-voltage feeder lines. The electric lines distribute electricity to satisfy the industrial, business, agricultural and residential demands of one third of Kandahar City's 480,000 residents.

"We are here to assist in the development of the Afghans' outdated electrical distribution networks throughout the region so businesses can thrive and stimulate the economy," said Staff. Sgt. Mario Sanchez.

Once the two power stations were commissioned, the task force members began overseeing the \$10.3-million operations and maintenance contract for the power stations and developing and managing \$7.2 million worth of "starter kit" tools and materials for DABS (Da Afghanistan Breshna Sherkat), the Afghan power utility company. The starter kits include transformers, medium and low-voltage cable, distribution panels and tools. Also included are electrical test equipment, bucket trucks, and pole truck with a trailer. The kits will provide the Afghan utility with the



*The Bagh-e-Pul power station, situated near a Soviet-era grain silo in western Kandahar City, is one of two diesel-fuel powered stations built by the U.S. Army Corps of Engineers Prime Power Battalion that delivers electricity to the city's residents. (USACE Photo/Karla K. Marshall)*

resources it needs to accomplish immediate, lasting, effective and reliable repairs in Kandahar province so they meet the needs of their Afghan customers.

As the conditions and needs evolved, the prime power team took a mentoring role on as well. “We work with the utility company to maintain the power systems and train their employees,” said Staff Sgt. Alex Brown. “They really do want to improve their way of life and are willing to work hard at it.”

Sgt. Joshua Strausbaugh agreed and added, “In the United States, there are many codes that must be followed when working with electricity to ensure safety. In Afghanistan, they don’t have these kinds of regulations. Fortunately, the utility employees picked up quickly on the whats and whys that we were trying to communicate to them.”

Safety is an essential component of all USACE projects, said Air Force Col. Benjamin Wham, South District commander. “Our first priority is keeping people safe. We must share that fundamental value with our Afghan partners.”

The team worked hard to accomplish their goal of safely getting more power production and effective distribution inside Kandahar, and were gratified by the appreciation they saw on the faces of Kandahar City residents, said Strausbaugh.

The team’s work has also taken them to the Kajaki Hydroelectric Plant, where they installed special protective switchgear. This relatively inexpensive installation increased the reliability of the transmission lines to Kandahar and Helmand provinces. According to Black, a new diesel plant providing an equal amount of power would have cost \$24 million.

A private contracting company was willing to install the switchgear at a cost of \$1.5 million with an eight-month lead time. Instead, three Prime Power Soldiers, working with and mentoring the Afghan hydroelectric plant operators and electricians accomplished the installation in six weeks for less than \$150,000.

### **Becoming a Prime Power Specialist**

Prime Power Soldiers’ unique capacity to tackle complex electrical engineering tasks are developed through specialized training at the Prime Power School at Fort Belvoir, Va.

“We went through a very rigorous, one-year training program, with fairly stringent prerequisites,” said Staff Sgt. Mario Sanchez a prime power specialist deployed to Afghanistan from the 249th Prime Power Battalion at Fort Bragg, N.C. “We go through two foundational phases of instruction before training for instrumentation, electrical, and mechanical specialties.”

The current Prime Power Production Specialist training program evolved from a Nuclear Power training program established in 1958 to train and qualify members of the Army, Navy, and Air Force as nuclear reactor operators and technicians.

As military power requirements changed, so did the training program. In 1977, the Nuclear Power program was phased out and replaced by the Non-tactical Generator training program. In 1985, the name changed to the Prime Power Production Specialist course.

Throughout their history, Prime Power Soldiers have deployed around the world, to deliver utility-grade power with the unit’s own generating equipment, and to troubleshoot and solve critical electrical generation and distribution challenges.



*Afghan utility workers prepare power lines at the Kajaki Dam to receive a new primary switch center. (USACE Photo)*

“The \$150,000 for the primary switch center was borne by USACE as it had the item in stock,” said British Air Force Wg. Cdr. Charlie Allan, Regional Command Southwest development plans officer. “But that said, there was also a benefit to the power house staff who were given on-the-job training by the prime power team during installation.”

“Language barriers and the idea that ‘doing things the old way was fine,’ were issues we overcame working with the Afghans,” said Brown. “But the challenge of doing something that would improve the life of Afghans was worth it.”

From initial conception to completion took just 39 days, but the impact on the electric system was immediate, said Allan. The switchgear protects the two Kajaki turbines where none existed before and prevents hard shut downs of the grid and mechanical deterioration of essential generators. This, in turn, leads to a far more stable power supply to the people of Helmand and Kandahar and far fewer power outages leading to longer electricity availability per day.

“Regardless of how costs are measured, having prime power specialists in Afghanistan is an exceptional value,” said Black. They supervise, operate, install and maintain electric power plant and associated systems and equipment—the 249th is a unique unit with unique and valuable capability.

“The 249th has a really critical mission here,” said Air Force Col. Benjamin Wham, South District commander. “Afghans need electricity to develop and sustain their economy. By helping the Afghan utility company improve and maintain its electric power generation, this small group of Soldiers delivers huge benefits. The outgoing crew has done an outstanding job training Afghan technicians and working with our private contractor to ensure Kandahar City enjoys reliable, stable power. I salute the outstanding efforts of the 249th Soldiers.”

This team of prime power NCOs will return to the United States soon and will be replaced by a new team. “There is still much to do,” said Sanchez. “Sub-stations powered by the Kajaki Dam will need upgrades to increase power throughout southern Afghanistan. The new team will continue the mentoring and contract oversight mission.”

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